PHENIX

Technical Support 2007

PHENIX
WEEKLY PLANNING

12/13/2007

Don Lynch

Run 8 Task Schedule

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Item	Start	Finish
RPC Tent preparation (see slides)	On Going	On Going
~~Install Gas house UPS's~~	~~12/3~~	~~12/10~~
Next scheduled Maint. Day	12/19	12/19
Install new UPS	~2/2	~2/9
Switch to p+p run	~2/2	~2/9
Mu Trigger FEE Prototype II install	~2/2	~2/2
Complete new beampipe design	2/29	2/29
Install HBD West for test run	~4/1	~4/1
End of Run 8 (less than 6 mos away)	5/27	5/27
End of Run Party	6/13?	6/13?

Next Maintenance Access Day

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December 19 – No task list generated yet

2008 PHENIX Shutdown Prep

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January-May 2008:

- Run 8 technical support
- RPC factory support
- new beam pipe design completion and review
- CM Crane design review and purchase placement
- Muon Trigger FEE prototype test ?
- MMN station 1 & 2 scaffolding design
- Muon Trigger Rack platform design and review
- RPC3 installation review (support structure, transport and installation fixture design, tunnel vapor barrier modification design, gas mixing and distribution system and piping design).
- VTX, FVTX & NCC technical support

Run Support

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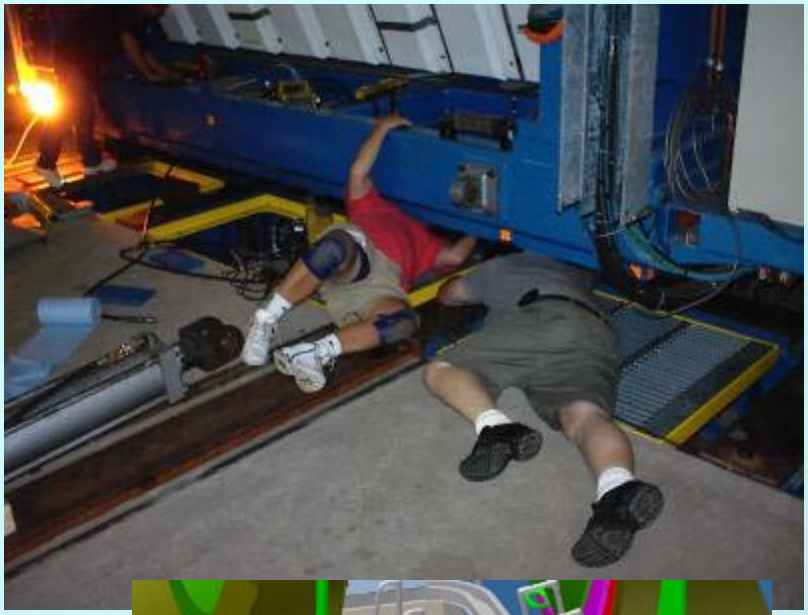

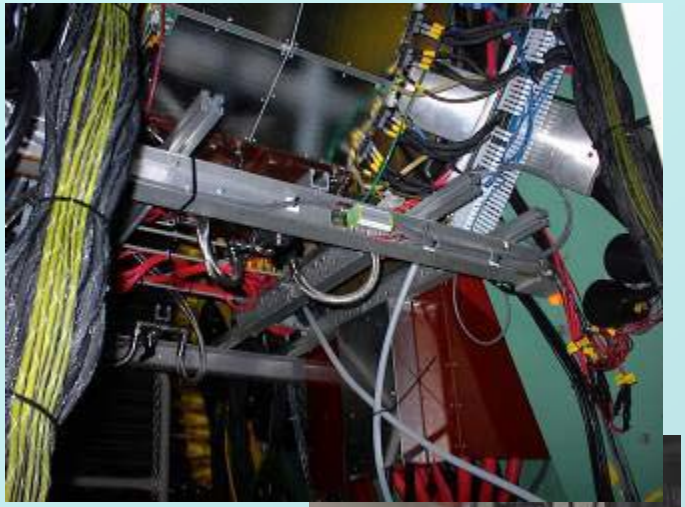

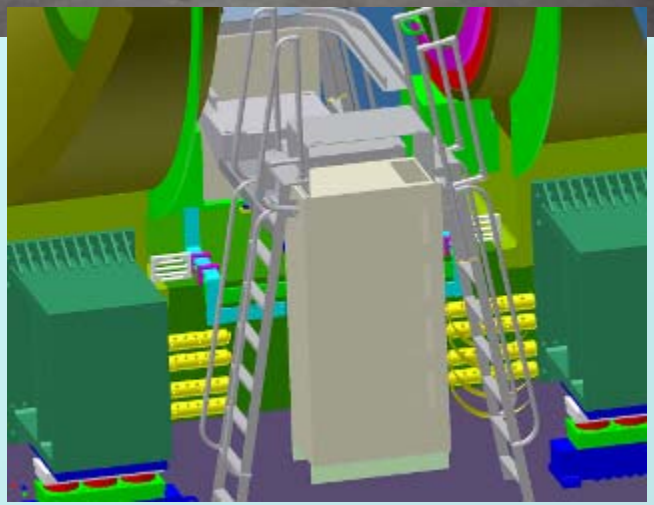

CM Ladder/Stair Shutdown Access

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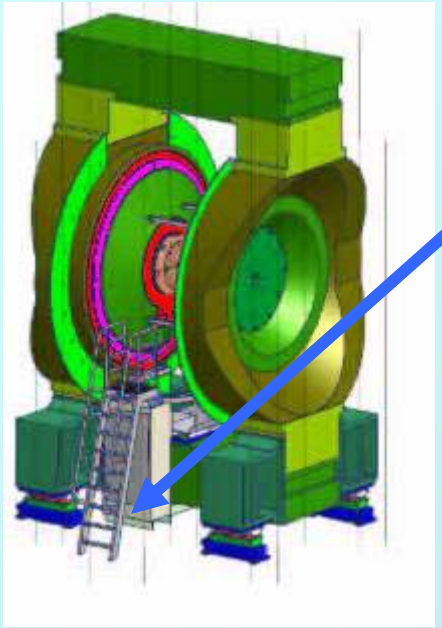
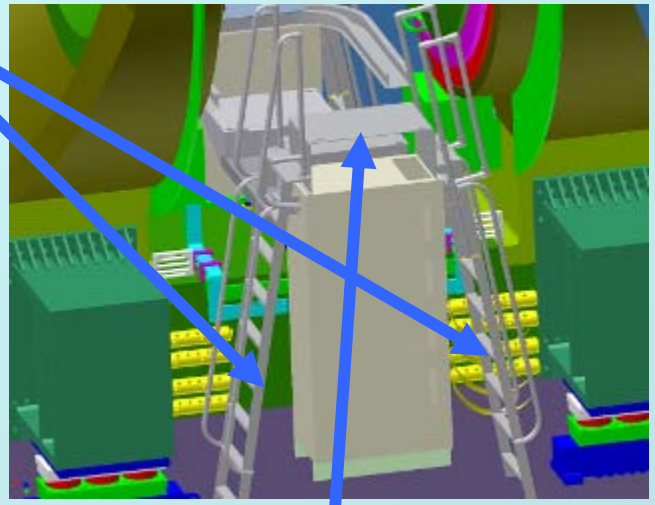


These ladders rec'd



Top of stair landing in shop, expect ~ 2weeks

Field fit components during next few maintenance accesses; install on west during end of d-Au run access

RPC Factory Support

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Design & Fab Needed for:

- **T^3 (tilting transport table)**
- **gap, module & half-octant storage Racks**

RPC Factory Issues, cont.

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Electrical – Done !! ?

Safety systems – Installation complete, system shakedown in progress, mini-blue sheet

Equipment – Need specs for T^3 (Tilting Transport Table) and GMHOS (gap, module and ½ octant storage) racks, then need to fabricate assemble and install.

Work plan – Add gas system description and checkout (mini-blue sheet procedure) to Gas system procedure as appendix A. Production operations require work plan update to include factory gas operation and final assembly/test procedures.

Security –RPC group to review C-A policy (3 tier requirement as required by C-A procedure 1.20) RPC group will prepare a one page description of how they intend to comply with this requirement. This will be reviewed by C-A.

RPC Factory Issues, cont.

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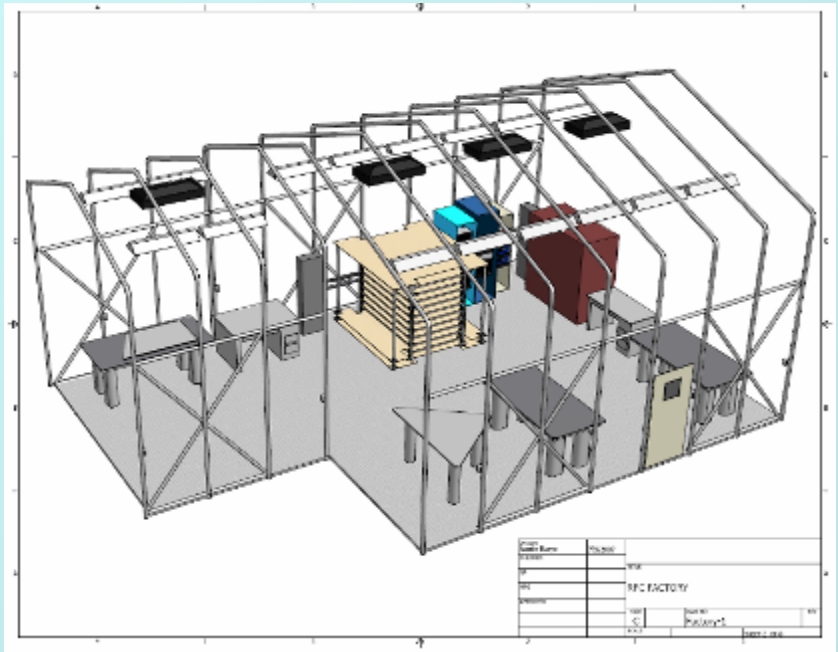
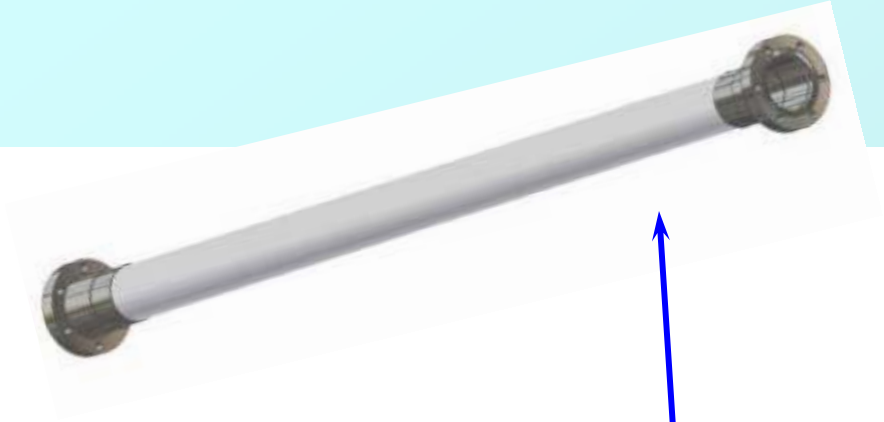
Remaining Action Items from C-A safety review:

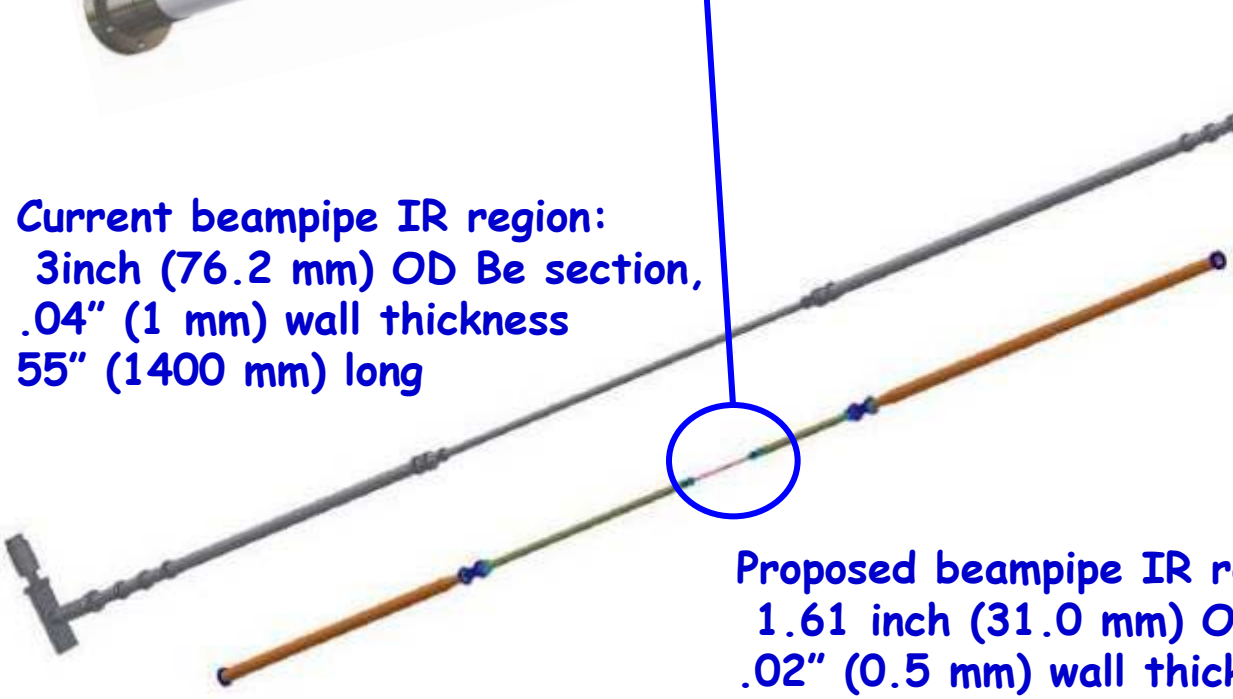
- Gas monitoring equipment to be calibrated and tested per BNL requirements – Equipment is manufacturer calibrated. Will be tested with mini "blue sheet" check out.
- Max flow rates incl. chambers in storage for all gases to be forwarded to M. van Essendelft – still needs to be done before factory startup
- Approved security apparatus to protect against theft – see above



New Beampipe Design & Review



Current beampipe IR region:
3inch (76.2 mm) OD Be section,
.04" (1 mm) wall thickness
55" (1400 mm) long



Design to be ready for final review by 2/29/08

Proposed beampipe IR region:
1.61 inch (31.0 mm) OD Be section,
.02" (0.5 mm) wall thickness
31.5" (800 mm) long

CM Crane

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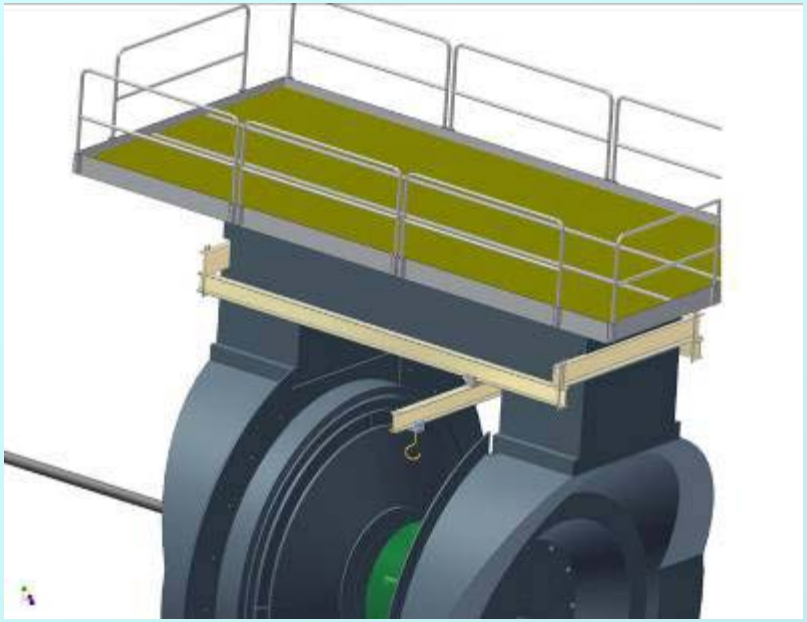

- Crane Design nearly ready for review
- Uses Gorbel 1-ton capacity Ceiling mounted Bridge Crane, modified to be supported by 2 Steel Channels attached to CM
- Bridge and hoist to be removed for running.

Muon Trigger FEE Prototype Test II

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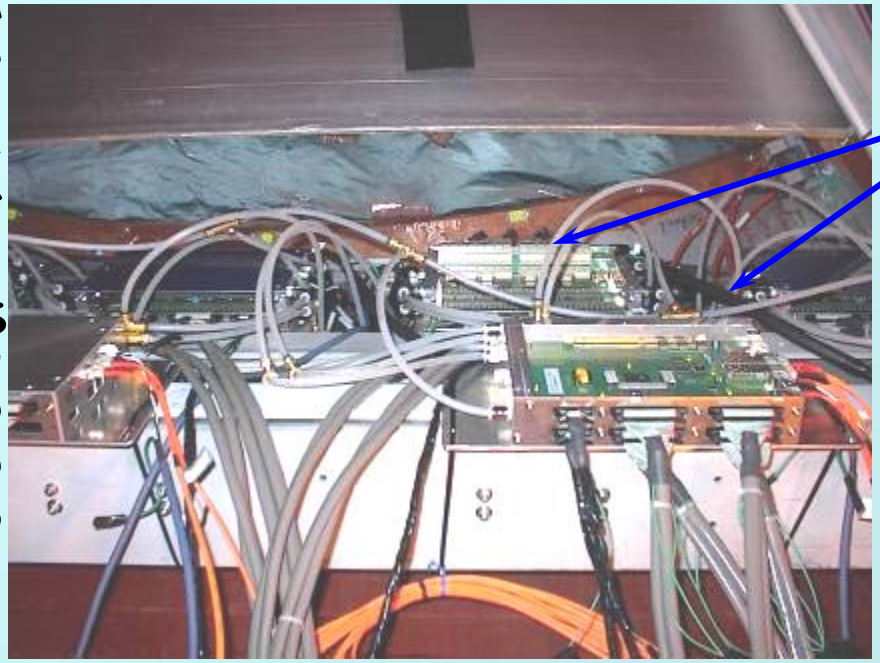
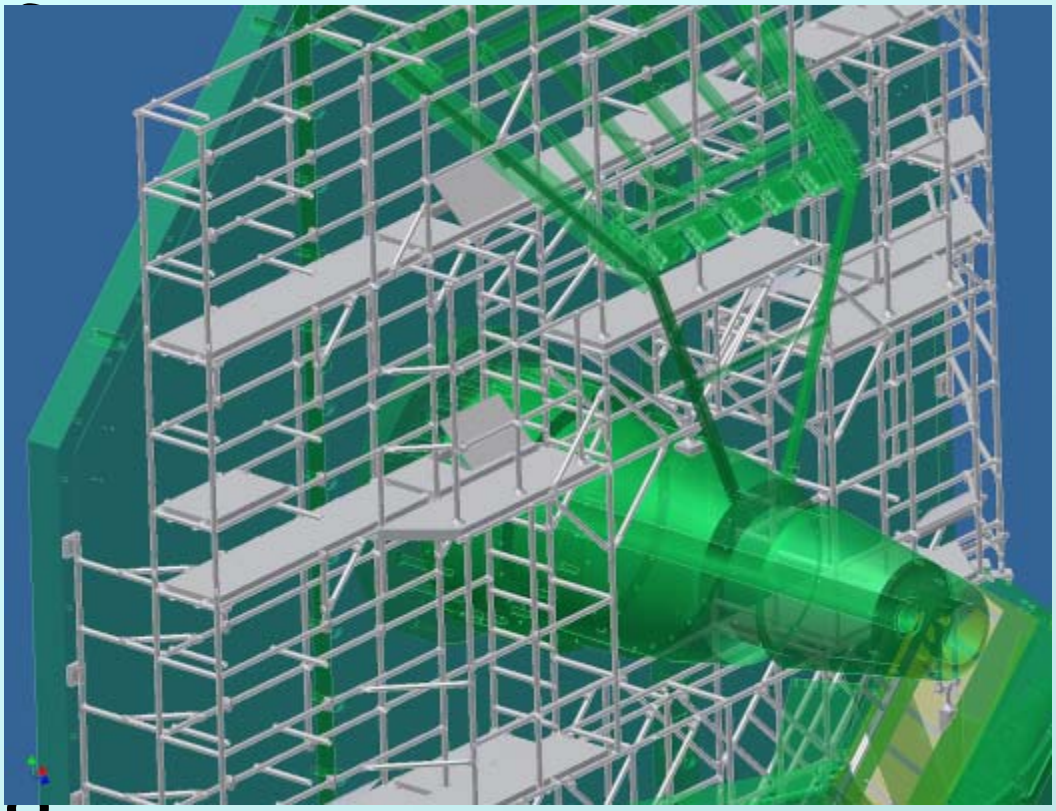


Test this past summer used separate AD and TX electronics.

- New plan combines the two into 1 more compact package.
- Experimental Safety Review is required
- Confined space work permit required.

MMN Scaffolding



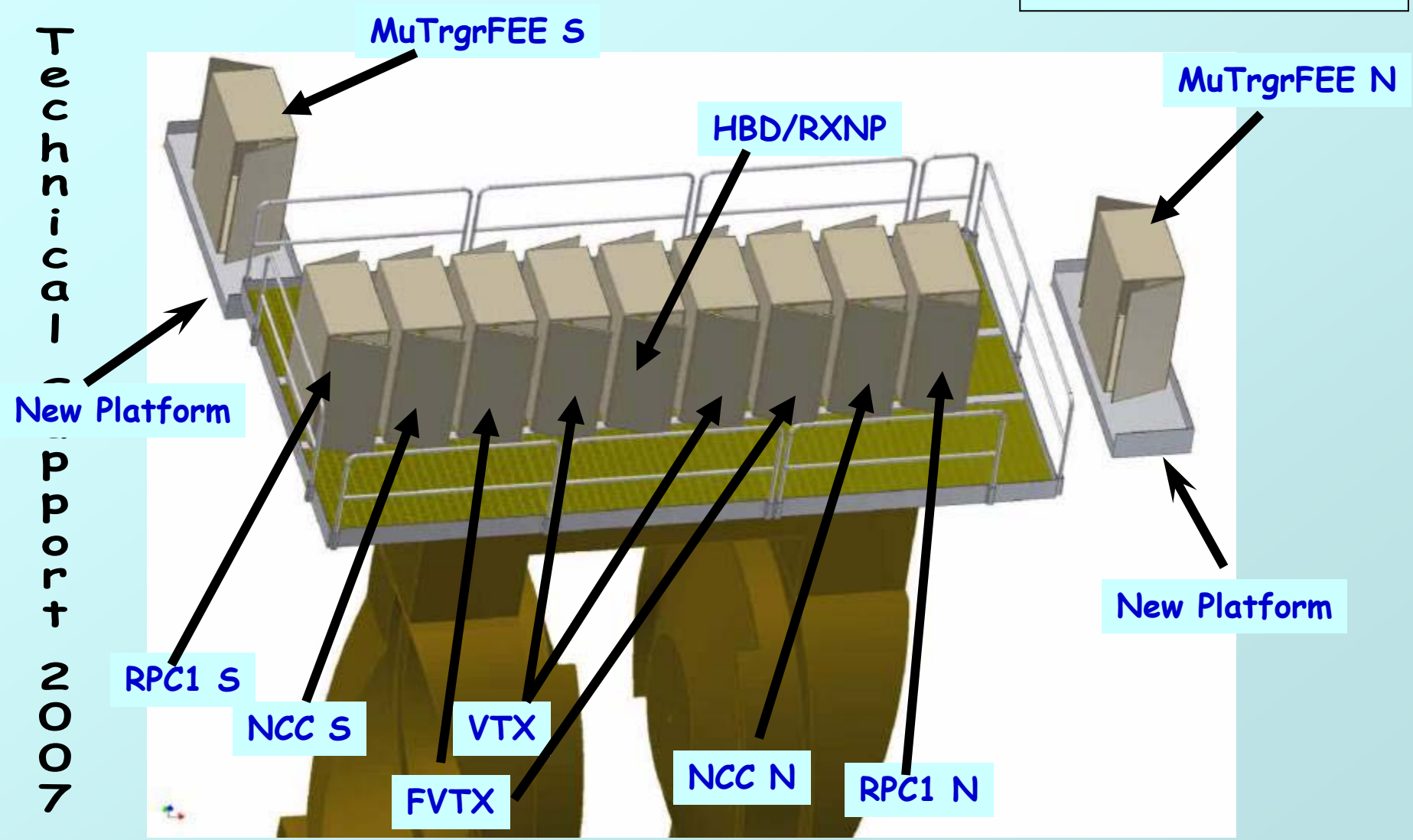
Existing MMN MuTr scaffolding is being redesigned to be assemble-able with only one lampshade removed and access to all station 2&3 FEE's from lower hatch.

Additional scaffolding to be designed to access all Station 1 North FEE's and lampshade sites adjacent to station 1.

Station 1 North scaffolding to be useable for Station 1 South with minimal modification.

Station 2 & 3 South scaffolding to be addressed later

Muon Trigger Rack Platforms



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RPC & MuTrigger Cont'd

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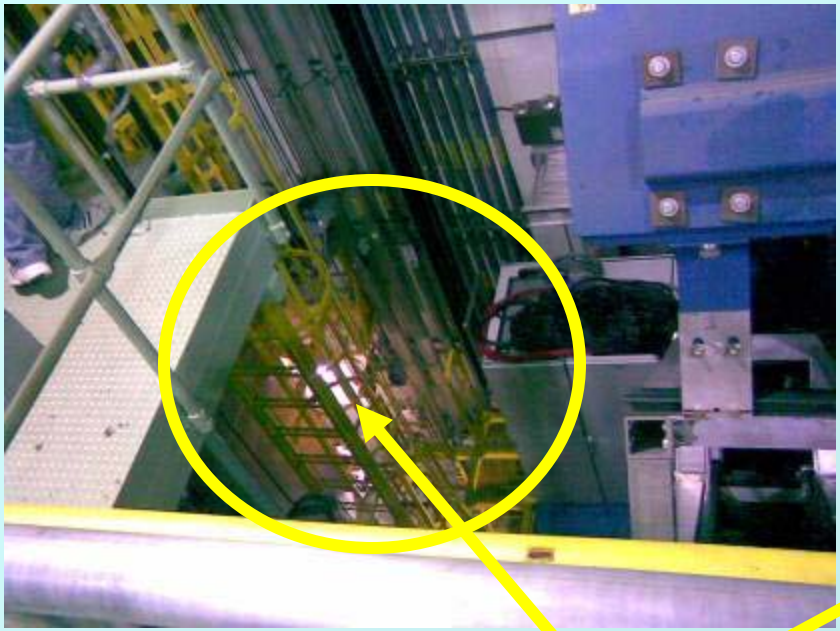

On the south side above the MMS upper bias lampshade there is space. Interferences with removing lampshades on west side of MMS and moving MMS east-west for maintenance need to be dealt with

RPC 3 Design Review

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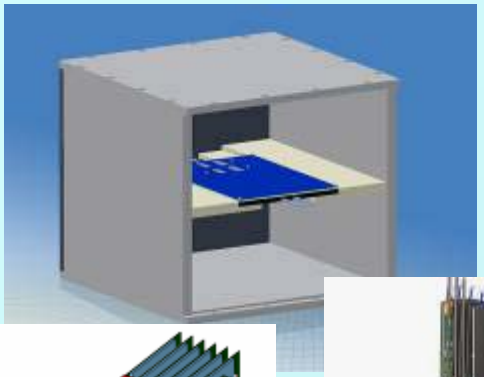
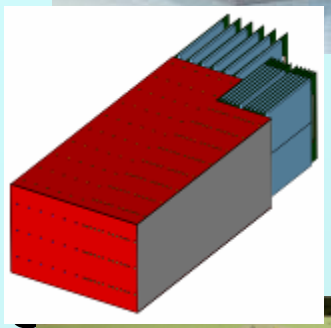
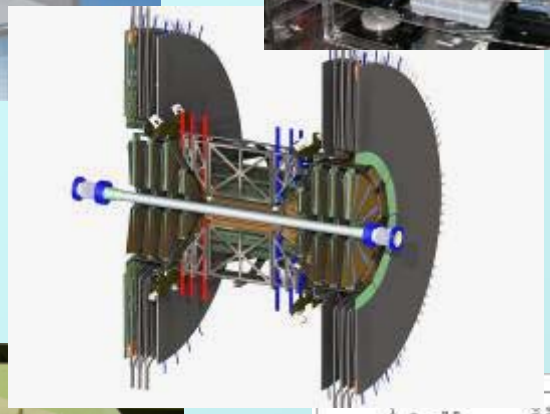
- 2008 shutdown: install one RPC 3 South and one RPC 2 South prototype half octant: requires installation fixtures, prototype gas system, modifications to tunnel vapor barriers, prototype electronics, cable routing support, and, of course, structural support design
- All require both functional and safety reviews (may be combined) by ~June 2008. Assume installation in Aug.-Sept. 2008.

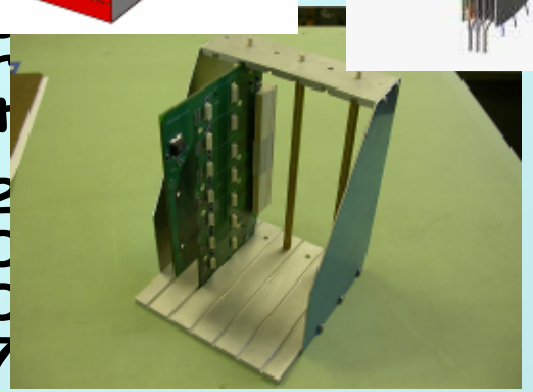
NCC, VTX & VFTX support

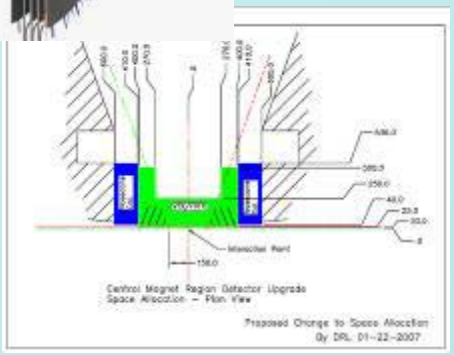
Technical Report 2007











- VTX, FVTX and NCC prototype support
- Integration
- Physical and Rack space
- Infrastructure upgrades

2008 PHENIX Shutdown

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June 2008: Remove MuID collar, disengage EC and move to AH, prep IR for shutdown work, remove MMS lampshade, begin MuTr "decapacitor" removal, continue RPC factory construction, receive and install CM crane, complete design reviews, prepare work permits, move CM south, 1 Cu absorber install

July 2008: Re-Install HBD, RPC prototype gas system, Move shielding for RPC installation, RPC prototype cable routing and support, modify crystal palace and tunnel vapor barrier, fabricate RPC installation fixtures, install MMN Station 2 & 3 scaffolding, TBD

August 2008: Install RPC prototypes, install Mu Trigger FEE's in MMS and MMN,
Install N&S rack support platforms for Mu Trigger FEE's. Install MMN cooling water and air supply for MMN. TBD prototype tests, TBD infrastructure work

September 2008: Replace tunnel shielding, connect electronics, gas, water and air as necessary for RPC and Mu Trigger FEE,

October 2008: Prepare for run, EC into IR, install collars, build shield wall, etc.

November 2007: blue sheets, white sheets, close wall, start shifts, flam. Gas, physics

Other Work

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- Clean Out Container: Material is evaluated. Clean out and dispose by end of Nov.
- Procedure review – pick up where we left off
- VTX/FVTX projects: beampipe upgrade project, prototype test support
- NCC – Richie supporting Eduoard design modifications
- New Crane: safety review to support acquisition and installation next summer

Safety, Security, Etc. :

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1. Training: JTA evaluation nearly complete. Need to

2. From CAD Safety:

   OPM 2.35, Snow Removal, has been revised at

   http://www.rhichome.bnl.gov/AGS/Accel/SND/OPM/Ch02/02-35.PDF

   to see the protocol on which buildings get priority in snow removal and how you call MCR to get other areas on the snow removal priority list. Note that the table in Attachment 8.1 to this OPM is being revised and will be issued shortly. PHENIX (1008) is a high priority during snow emergencies, but apparently the lowest of the high priorities.

3. 5 changes which may affect a work plan (worker planned, prescribed or permitted)

   a. Change in Location
   b. Change in sequence
   c. Change in Equipment
   d. Change in Roles & Responsibilities
   e. Change in work conditions

   When changes are encountered stop and take a moment to determine if additional, modified, expanded work planning is necessary

PHENIX

JTA's :

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JTA	Course	Renew frequency	C. Biggs	K. Jones	J. LaBounty	M. Lenz	F. Toldo	J. Tradeski	S. Boose	P. Giannotti	D. Lynch	R. Pisani	S. Polizzo
PO-01 Physics department member	PO-RADALARA	1 time	J	J	J	J	J	J	J	J	J	J	J
	TQSAFEAWARE	1 time											
PO-06 Physics Dept. Elect Safety 1 - Authorized Worker	PO-ELECSAFETY	3 yr	N	N	N	N	R	N	J	R	N	N	R
	TQ-ELECSAF1	2 yr	N	N	N	N	S	N	J	R	N	N	R
GE-12 Static magnetic field qualified	TQ-SMF	1 time	R	R	R	R	R	R	R	R	R	R	J
GE-46B Heat stress prevention	TQ-HEATSTRESS	1 time	R	R	R	R	R	R	R	R	R	R	R
GE-53E BNL Employee	GE-CIA	1 time	J	J	J	J	J	J	J	J	J	J	J
	GE-CYBERSEC	1 time	J	J	J	J	J	J	J	J	J	J	J
	GE-EMERGPLAN	1 time	J	J	J	J	J	J	J	J	J	J	J
	GE-ENV-GET	1 time	J	J	J	J	J	J	J	J	J	J	J
	GE-STOPWORK	1 time	J	J	J	J	J	J	J	J	J	J	J
	HP-V-001	1 time	J	J	J	J	J	J	J	J	J	J	J
	TQ-GET2004	1 time	J	J	J	J	J	J	J	J	J	J	J
	TQ-PROTECTED	1 time	J	J	J	J	J	J	J	J	J	J	J
	TQ-SAFEAWARE	1 time	J	J	J	J	J	J	J	J	J	J	J
GE-68A LOTO affected	HP-OSH-150-A	1 time	R	R	R	J	S	R	J	R	J	R	S
	HP-OSH-151-A-W	1 time											
GE-68B LOTO Authorized	HP-OSH-151B-W	1 yr	N	N	N	N	J	N	N	N	N	N	R
	TQ-ELECSAF1	2 yr	N	N	N	N	J	N	N	N	N	N	R
GE-69B Elect safety l qualified	TQ-ELECSAF1	2 yr	J	R	R	J	J	R	J	J	J	J	J
	TQ-ADULTCPR	2 yr											
GE-70 Lab Standard-Qualified	HP-IND-220	2 yr	N	N	N	N	N	N	J	N	N	N	N
GE-70A Hazard communication qualified	HP-IND-200	2 yr	J	R	R	J	J	R	J	J	J	J	J
GE-70H Beryllium use qualified	TQ-BERYLIUM	1 time	R	R	R	R	R	R	N	N	R	O	N
GE-72 Machine shop qualified	GE-MACHINE	1 time	J	J	J	J	R	R	N	N	O	O	O
GE-73 Back safety	TQ BACKSAFE	3 yr	J	R	R	R	R	R	N	N	O	O	R
GE-77H RHIC User	AD-CA_COLLIDER_EXAM	1 yr	S	S	S	S	S	S	J	S	J	S	S
	AD-CA_COLLIDER_USER	1 time	S	S	S	S	S	S	J	S	J	S	S
GE-81 Fall protection	GE-FALLPROTECT	3 yr	J	J	J	R	R	J	R	R	R	J	R
GE-81A Portable Ladder Qualified	TQ-LADDER	1 time	R	R	R	R	R	R	R	R	R	R	R
GE-87 Occupational Lyme exposure qualified	TQ-LYME1	1 time	R	R	R	R	R	R	R	R	R	R	R
GE-91 Scaffold User	*(GE-FALLPROTECT)*	*see GE-81*	R	R	R	R	R	R	R	R	R	R	R
	GE-SCAFFOLD	1 time											
RC-P8 PHENIX Awareness	AD-CA_COLLIDER_USER	1 time	J	J	J	J	R	R	J	J	R	J	R
	AD-CA_COLLIDER_EXAM	1 yr											
	(GE-CYBERSEC)	*see GE-53*											
	RC-PAT	1 yr											

5 Year Plan

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2008	Install stations 1& 2 of MuTr FEE upgrades (north), 1 octant Cu absorber (S), 2 half otants RPC2/3 S, infrastructure upgrades & repairs, misc. subsystem work, MMN scaffolding
2009	Scaffolding in MMS, MuTr FEE N stn. 1,2 & 3, MuTr N&S stn. 1,2 & 3 repairs, RPC2 N, RPC3 N, north Cu absorbers, infrastructure upgrades & repairs, misc. subsystem work
2010	Remove HBD & RXNP, remove beampipe, DC West upgrade, VTX barrel, south Cu absorber completed, MuTr FEE stn. 3 S, MuTr stn. 1, 2 & 3 S repairs, infrastructure upgrades & repairs, misc. subsystem work
2011	RPC1 N&S, NCC S, FVTX, infrastructure upgrades & repairs, misc. subsystem work, remove south absorber
2012	NCC N, upgrades contingency & wishlist, infrastructure upgrades & repairs, misc. subsystem work, remove north absorber

** Years refer to the shutdown year and follow the run with the similar number (i.e. work in 2008 is to be done in the shutdown that follows run 8, and so on)*

PHENIX

Technical Support 2007

Where To Find PHENIX Technical Info

Let's keep those collissions coming

Links for the weekly planning meeting slides, long term planning, pictures, videos and other technical info can be found on the web site:

http://www.phenix.bnl.gov/WWW/INTEGRATION/ME&Integration/DRL_SSint-page.htm